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UNITED STATES DEPARTMENT OF AGRICULTURE
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THE POULTRY AND EGG SITUATION

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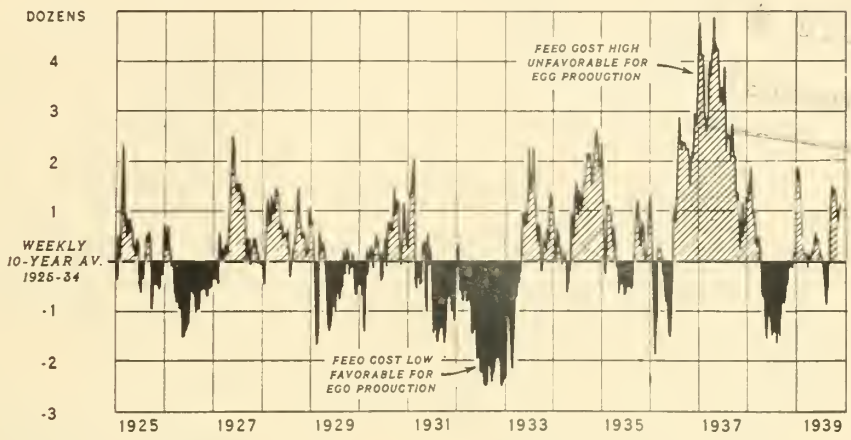
FEED-EGG RATIO AT CHICAGO, 1925 TO DATE



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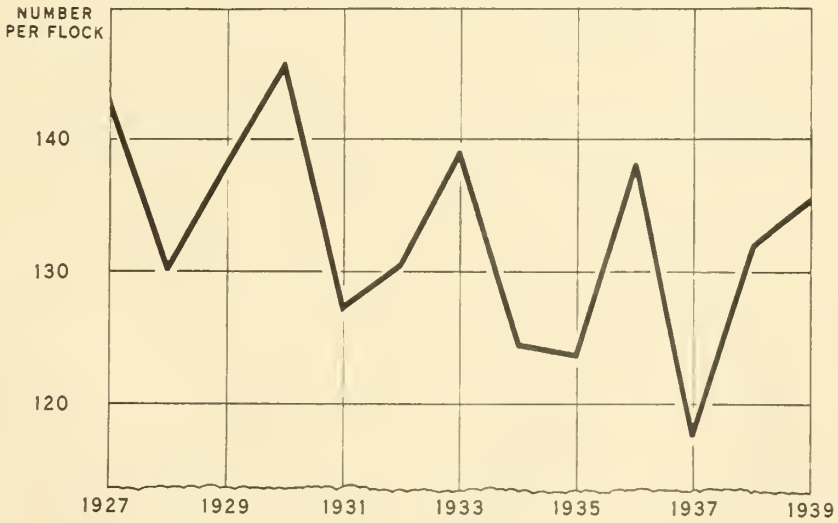
CHICKS AND YOUNG CHICKENS PER FARM FLOCK ON JUNE 1, 1927-39



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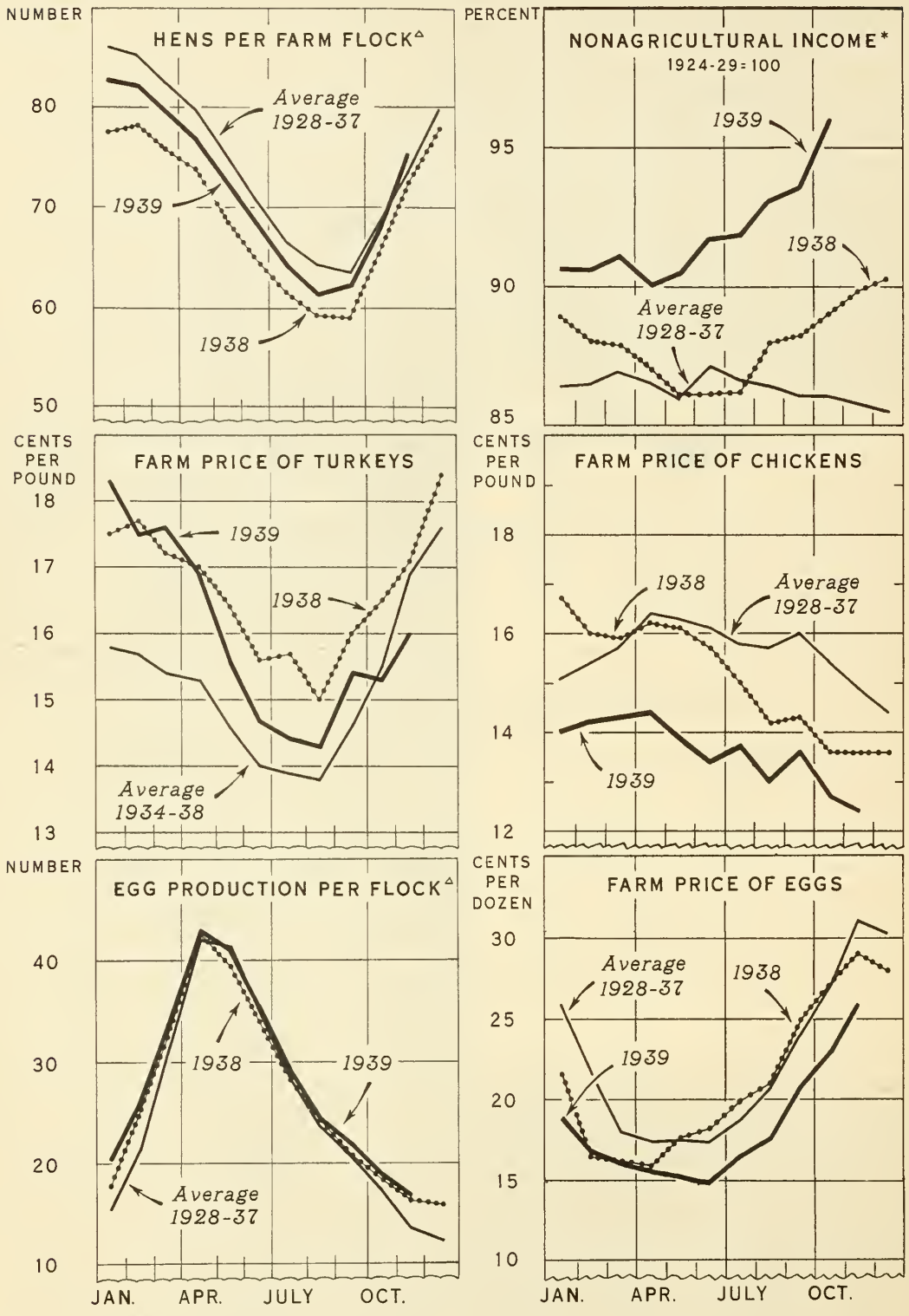
THE FEED-EGG RATIO MEASURES THE RELATIONSHIP BETWEEN FEED COSTS AND EGG PRICES. WHEN THE FEED-EGG RATIO IS HIGH, FEED COSTS ARE HIGH AND THE SITUATION IS RELATIVELY UNFAVORABLE TO THE PRODUCER OF EGGS. SINCE SEPTEMBER THE FEED-EGG RATIO HAS BEEN ABOVE BOTH LAST YEAR'S RATIO AND THE 10-YEAR AVERAGE. THIS SAME UNFAVORABLE SITUATION IS EXPECTED TO CONTINUE DURING THE REMAINDER OF 1939 AND EARLY 1940. AS A RESULT, HATCHINGS IN 1940 ARE EXPECTED TO BE SMALLER THAN IN 1939.

THE POULTRY AND EGG SITUATION AT A GLANCE



* INDEX NUMBERS, ADJUSTED FOR SEASONAL VARIATION △ ON 1ST. DAY OF MONTH

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FIGURE 1

THE POULTRY AND EGG SITUATION

Summary

Market receipts of dressed poultry have been increasing seasonally to take care of the holiday demand. The into-storage movement for poultry is now well under way, and stocks at the 26 major storing cities on November 25 were 6 percent larger than at the same time last year. Supplies of poultry during the remainder of 1939 and early 1940 will continue larger than in the corresponding period of the 1938-39 marketing season.

Receipts of eggs have about reached the low point for the year. The out-of-storage movement of shell eggs during the past 2 months has been materially above that of the corresponding 2 months of last year. As a result, stocks of shell eggs at 26 cities on November 25 were only 1 percent above a year earlier as compared with 10 percent above on September 16. The out-of-storage movement of frozen eggs has been about equal to that of last year. Stocks on November 25 were 17 percent above a year earlier.

Feed costs in relation to egg prices continue above both a year earlier and the 10-year average. During the first half of 1940 the feed-egg ratio is expected to average higher than in the first half of 1939.

Prices received by farmers for chickens and eggs are following their usual seasonal movements, but on November 15 they continued well below both a year earlier and the 1928-37 November average. The effect of larger supplies on prices during the first half of 1940 will be at least partly offset by the effect of larger consumer incomes as compared with the same period in 1939. The farm price of turkeys on November 15 was about 1 cent per pound above the price on October 15 but was 1 cent below the price on November 15, 1938.

The seasonal increase in the number of layers per farm flock from August 1 to November 1 was greater this year than either last year's or the 1928-37 average increase. Laying flocks on November 1 this year were 4 percent larger than a year earlier and the largest for November 1 since 1930.

As a result of the expected less favorable feed-egg ratio, hatchings in 1940 may be smaller than in 1939.

Note: An explanation of how the feed-egg ratio is determined is given on page 10 of this Poultry and Egg Situation.

POULTRY SITUATION

Poultry marketing

Receipts of dressed poultry at the four principal markets have been increasing seasonally to take care of the holiday demands. Receipts during the remainder of 1939 and early 1940 will continue larger than in the corresponding period of the 1938-39 marketing season because of the larger number of hens and chickens on hand and the large increase in turkey production. Receipts in the latter half of 1940 may be somewhat smaller than in 1939 because of the expected smaller hatchings.

Receipts of dressed poultry at 4 markets
(New York, Chicago, Philadelphia, Boston)

Year	Week ending as of 1939								
	Jan.	Oct.		Nov.				Dec.	
	28	21	28	4	11	18	25	2	9
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
Average 1928-37	6,252	7,366	7,479	7,597	8,485	12,841	28,385	15,627	9,754
1938	3,814	8,558	8,817	8,855	9,515	33,364	17,101	8,596	10,217
1939	6,020	7,733	8,438	9,470	11,741	28,200	23,999		

Poultry storage

Storage stocks of frozen poultry are now increasing seasonally. Stocks at the 26 major storing cities on November 25 were 6 percent above the corresponding week last year and 24 percent above the 1928-37 average. During the

4 weeks ending November 25, the into-storage movement was 18 percent above a year earlier and 54 percent above the 10-year average.

The net into-storage movement during the period of accumulations from September to January is expected to exceed that of a year earlier but to be smaller than the movement in 1936 when the severe drought forced the sale of large numbers of hens and chickens. Thus, storage stocks on January 1, 1940, are expected to be larger than on the same date in 1939 but smaller than the record high stocks of January 1, 1937.

Storage stocks of frozen poultry at 26 markets

Year	Storage stocks Oct. 28	Into-storage movement, November 4	11	18	25	Storage stocks Nov. 25
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Average 1928-37	48,698	3,235	3,544	4,048	6,159	65,684
1936	70,660	4,704	4,676	5,536	8,995	94,571
1937	55,136	4,353	5,356	3,693	6,083	74,621
1938	54,344	3,586	3,593	5,814	9,144	76,481
1939	54,948	4,740	6,629	5,392	9,456	81,165

Chicken prices

Prices received by farmers for chickens on November 15 were over 1 cent per pound below prices on the same date last year and 2½ cents below the 1928-37 average for November 15. The seasonal decline in prices since April 15 has been somewhat less than occurred last year but somwhat greater than the 10-year average.

The effect on prices of larger supplies of poultry during the first half of 1940 as compared with a year earlier will be at least partly offset by larger consumers' income. During the latter part of 1940, smaller supplies and larger consumers' incomes are expected to result in considerable improvement in chicken prices as compared with a year earlier.

Price per pound received by farmers for chickens

Year	Jan. 15	Feb. 15	Apr. 15	June 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Average 1928-37	15.1	15.4	16.4	16.1	15.7	16.0	15.4	14.9	14.4
1938	16.7	16.0	16.2	15.7	14.2	14.3	13.6	13.6	13.6
1939	14.0	14.2	14.4	13.4	13.0	13.6	12.7	12.4	

Fall and winter broilers

Reports from 68 commercial hatcheries, located in the States along the Atlantic Seaboard and in certain Midwestern States where the production of fall and early winter broilers is an important industry, show a hatch 1 percent larger for October than the record high hatch of October, 1938. In New England a marked decrease of 29 percent compared with a year earlier was reported, whereas in the Middle Western States there was an increase of 32 percent. The difference between these two areas may be explained in part by the rise in feed prices earlier in the fall and the fact that most New England producers purchase shipped-in feed whereas most Middle Western producers have abundant available supplies of locally-grown feed.

Turkey prices

Prices received by farmers for turkeys increased 0.7 cents between October 15 and November 15. This increase was about the same as that for the corresponding period last year but less than the 1928-37 average increase. Prices on November 15 were more than 1 cent per pound below a year earlier and almost 3 cents below the 1928-37 average for November 15.

Price per pound received by farmers for turkeys

Year	Oct. 15	Nov. 15	Dec. 15	Jan. 15
	Cents	Cents	Cents	Cents
Average 1928-37	17.9	18.9	18.5	18.1
1937-38	16.7	17.9	18.0	17.5
1938-39	16.5	17.1	18.4	18.3
1939-40	15.3	16.0		

EGG SITUATION

Laying flock size

The average size of laying flocks on November 1 was 4 percent larger than a year earlier and 2 percent above the 1928-37 average. This year laying flocks were larger than they have been for any other November 1 since 1930.

The seasonal increase in numbers of layers per farm flock from August 1 to November 1 has been 14 birds this year compared with 13 last year and the 10-year average seasonal increase for that period of 10 birds.

Average number of laying hens per farm flock on the first day of the month

Year	Jan.	Feb.	May	Aug.	Sept.	Oct.	Nov.	Dec.
	Number	Number	Number	Number	Number	Number	Number	Number
Average 1928-37	86.0	85.1	75.1	64.2	63.5	68.6	73.8	79.8
1937	84.2	82.5	73.1	62.1	59.9	64.3	69.3	74.4
1938	77.6	78.3	68.6	59.3	59.8	65.6	72.5	78.0
1939	82.8	82.0	72.2	61.3	62.1	68.0	75.6	

Egg production

The rate of egg production per layer continues slightly below that of a year earlier, as has been the case in every month of 1939 except January and September, when production per hen was higher than in 1938. Throughout the year production has been well above the 1928-37 average. Egg production per hen is expected to continue above the 10-year average.

Total egg production per farm flock on November 1 was 3 percent larger than a year earlier and 24 percent above the 10-year average. With some increase indicated in the number of layers next year and no great change probable in the rate of lay per bird, total egg production during 1940 may be slightly larger than in 1939.

Eggs laid per 100 hens and pullets of laying age in farm flocks on the first day of the month

Year	Jan.	Feb.	May	Aug.	Sept.	Oct.	Nov.	Dec.
	Number	Number	Number	Number	Number	Number	Number	Number
Average 1928-37	17.9	25.0	55.5	37.1	32.7	25.5	18.1	15.2
1937	22.0	25.7	57.8	40.4	36.1	28.8	21.1	18.6
1938	22.7	32.2	58.1	41.2	35.3	28.2	22.3	19.9
1939	24.6	31.9	57.6	40.4	36.0	27.5	22.0	

Egg marketings

Receipts of eggs at the four principal markets have about reached their low point for the year. During the 4 weeks ended November 25, receipts were 9 percent above receipts a year earlier and 1 percent above the 1928-37 average for these weeks. Receipts in 1940 may be slightly larger than in 1939 because of the expected larger egg production.

Receipts of eggs at four markets
(New York, Chicago, Philadelphia, Boston)

Year	Week ending as of 1939								
	Jan. 28	Oct. 21	Oct. 28	Nov. 4	Nov. 11	Nov. 18	Nov. 25	Dec. 2	Dec. 9
	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases
Average 1928-37	212.2	140.3	136.6	126.8	118.9	122.9	125.8	116.7	130.8
1938	220.1	135.4	123.1	125.6	104.3	116.8	113.9	136.8	130.9
1939	229.2	117.0	125.4	128.4	115.2	138.7	119.1		

Egg storage

Combined holdings of shell and frozen eggs at the 26 major storing cities on November 25 were 0 percent above a year earlier. However, stocks of shell eggs were only 1 percent larger than a year earlier, while stocks of frozen eggs were 17 percent larger.

The out-of-storage movement for shell eggs during the 4 weeks ended November 25 was 14 percent above a year earlier, whereas the movement for frozen eggs was 2 percent below the corresponding weeks in 1938.

Storage stocks of eggs at 26 markets

Year	Storage stocks Oct. 23	Week ending as of 1939				Storage stocks Nov. 25
		Out-of-storage movement, November				
		4	11	18	25	
	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases
Shell						
Average 1928-37	3,785	358	369	380	354	2,324
1938	2,613	289	272	327	278	1,447
1939	2,790	350	361	304	300	1,466
Frozen						
1938	1,620	35	66	65	54	1,350
1939	1,943	72	57	67	68	1,579

Egg prices

Prices received by farmers for eggs on November 15 continued over 3 cents per dozen below a year earlier and over 5 cents below the 1928-37 average for November 15. In every year since 1933 egg prices have reached a peak in

November. Trends in wholesale egg prices indicate that this will also be true in 1939.

Egg supplies during the first half of 1940 may be slightly larger than in 1939 but the effect on prices of any increase in supplies as compared with a year earlier will be at least partly offset by increased consumers' income. Expected smaller supplies and larger consumers' income in the latter part of 1940 should result in considerable improvement in egg prices as compared with a year earlier.

Price per dozen received by farmers for eggs

Year	Jan. 15	Feb. 15	Apr. 15	June 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Average 1928-37	25.9	21.6	17.4	17.4	20.6	23.9	27.0	31.1	30.3
1938	21.6	16.4	15.9	18.2	21.0	24.9	27.1	29.0	27.9
1939	18.8	16.7	15.5	14.9	17.5	20.6	22.9	25.8	

SPRING HATCHINGS

Because of the expected less favorable feed-egg ratio, hatchings in the spring of 1940 are expected to be somewhat smaller than the large hatch of 1939. Since 1925, a 3-year cycle in chicken numbers has been evident. Production has been expanding for the past 2 years, so if this cycle is continued hatchings will be smaller in 1940 than in 1939.

FEED-EGG RATIO

During recent months the number of eggs required to buy 100 pounds of poultry feed at Chicago has been declining seasonally. This number usually reaches a low point for the year by about the end of November. Since September the number has been above the number required in the corresponding weeks of 1938 or the 1928-37 average. For the week ended November 25, 1-1/4 dozen more eggs were required to purchase 100 pounds of feed than in the corresponding week last year and almost 3/4 dozen more than the 10-year average. It is expected that more eggs will be required to buy 100 pounds of feed during the remainder of 1939 and the first half of 1940 than were required a year earlier or than the 10-year average number.

Feed-egg ratio at Chicago
(Dozens of eggs required to buy 100 pounds of poultry ration)

Year	Week ending as of 1939											
	Feb.	May	Aug.	Oct.		Nov.				Dec.		
	25	27	26	21	28	4	11	18	25	2	9	16
	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.
Average 1928-37	6.01	7.04	6.26	4.89	4.72	4.33	4.04	4.02	4.04	4.09	4.30	4.52
1938	6.92	5.41	4.57	3.71	3.79	3.48	3.44	3.61	3.48	3.56	3.86	4.01
1939	6.21	7.21	6.33	5.29	5.13	4.73	4.66	4.62	4.73			

Feed-egg ratio defined

A study of the relation between feed prices and egg prices can be of great value to poultry producers, particularly in planning future operations. This relation can be expressed either as a feed-egg ratio or as an egg-feed ratio.

In the June 1 issue of the Poultry and Egg Situation a discussion of the two types of ratios was given and comments were requested as to which type of ratio was preferred. Too few letters were received in response to this request to warrant making a change at the present time from the feed-egg ratio to an egg-feed ratio. However, several of the letters contained requests as to just how a feed-egg ratio was calculated and how it should be interpreted. An answer to these questions is given below:

The Department of Agriculture publishes two feed-egg ratios. One of these is published weekly and is based on wholesale egg and feed prices at Chicago. This is published in various daily market reports and in the Poultry and Egg Situation. The other is published monthly and is based on the estimated farm prices of eggs and feed as of the 15th of the month. It is published in the monthly production report of the Crop Reporting Board.

Both ratios show the number of dozen eggs required to purchase 100 pounds of a standard poultry ration. The ration used is composed of 62 pounds of corn, 14 pounds of wheat, 8 pounds of oats, 2 pounds of barley, 9 pounds of bran and 5 pounds of tankage, the total equaling 100 pounds. Tankage was included instead of some other form of animal protein, such as meat scrap, because a long series of prices was not available for such a protein. This ration is not necessarily recommended for poultry producers. It was chosen because it represents a general average of feeding practice over wide areas and many years and so serves as a basis for comparing poultry feed costs during various periods.

The Chicago feed-egg ratio is based on the following weekly average market quotations:

Eggs	-	Fresh Graded Firsts at Chicago
Corn	-	No. 3 at Chicago
Wheat	-	No. 3 Red at Chicago
Oats	-	No. 3 White at Chicago
Barley	-	No. 2 at Minneapolis
Bran	-	At Chicago
Tankage	-	At Chicago

The farm feed-egg ratio is based on the following prices for the United States as estimated for the 15th of each month:

Eggs	-	Prices received by farmers
Corn, wheat, oats and barley	-	Prices received by farmers
Bran and tankage	-	Prices paid by farmers

After feed and egg prices have been obtained, the feed-egg ratio is computed by dividing feed prices by egg prices as illustrated below:

Chicago feed-egg ratio, November 13-18, 1939

Cost of poultry ration per cwt.	$1.131
Price of Fresh Graded Firsts per dozen	.245
Chicago feed-egg ratio	4.62

The principal advantages of the Chicago ratio, as compared with the farm ratio, are that the ratio can be computed for a more recent period and that sometimes changes are evident in weekly data which are hidden in monthly averages. For these reasons, the Chicago ratio is published in the Poultry and Egg Situation. An advantage of the farm ratio is that it gives a better indication of conditions throughout the United States.

The most important use for the feed-egg ratio is in forecasting future poultry and egg production. For example, it has been found that, on the average, a 20-percent decrease from the preceding year in the October-March feed-egg ratio has resulted in a 5-percent increase in the number of chicks on hand per farm flock the following June 1 as compared with the preceding year. Likewise, a 20-percent decrease in the July-December feed-egg ratio, on the average, has resulted in a 1-percent increase in the number of hens and pullets of laying age in farm flocks on January 1 over what would normally result from changes in the number of chicks on hand per farm flock the preceding July 1.

The feed-egg ratio alone cannot be used to show whether egg producers are making or losing money at any one time. Many factors other than feed costs and egg prices determine the profitableness of an individual laying flock. However, the change in feed costs in relation to egg prices from one period to another is an important factor in affecting a change in the profitableness of egg production. When the feed-egg ratio is high, feed costs are high in relation to egg prices, and, other things being equal, it is less profitable to produce eggs than when the ratio is low.

SUPPLEMENTARY DATA

Domestic demand

The domestic demand for farm products is expected to be stronger in 1940 as a whole than in 1939, largely because of prospective increases in domestic business activity and consumers' incomes. Both industrial production and consumers' incomes will be higher at the start of the year than they were at the beginning of 1939. There may be a temporary let-down in the first part of 1940 while industrial output is being adjusted to the actual volume of domestic consumer demand and exports, but recovery from such a possible recession should be sufficiently early and vigorous to bring the averages for the year at least moderately above those for 1939.

Nonagricultural income index revised

The index of nonagricultural income has been revised back to 1929. The revised index numbers are given in the following table. Data for earlier years were published in the December 1, 1938 Poultry and Egg Situation.

Nonagricultural income payments, United States, 1929 to date
(Seasonally corrected index numbers: 1924-29 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Average 1928-37:	86.4	86.5	86.9	86.5	85.9	87.2	86.6	86.4	86.1	86.1	85.7	85.5	84.7
1929	105.0	105.7	106.3	106.6	106.8	106.8	107.9	109.4	109.5	109.4	108.2	107.2	107.4
1930	106.3	105.0	104.1	103.1	102.0	100.6	99.4	98.2	97.3	96.2	94.5	93.1	100.0
1931	91.7	90.9	95.4	95.0	89.2	86.6	85.4	84.0	82.2	80.8	79.6	78.6	86.6
1932	76.1	75.1	73.2	70.9	68.9	66.6	65.2	64.6	64.2	64.2	63.5	63.3	68.0
1933	62.8	62.1	60.2	59.6	60.2	61.3	61.8	63.9	64.9	65.5	66.1	68.3	63.0
1934	70.4	70.7	71.3	70.7	71.6	71.6	72.1	72.6	71.5	72.5	73.2	73.5	71.8
1935	74.9	75.6	75.5	75.9	75.6	75.8	76.2	77.3	78.1	79.0	79.8	81.1	77.1
1936	82.7	83.6	84.6	85.1	86.1	101.2	95.5	91.0	91.2	92.3	92.8	93.5	90.0
1937	92.9	93.8	95.1	95.7	96.4	96.9	97.1	97.7	96.7	96.0	94.1	91.7	95.4
1938	88.9	88.1	87.9	87.0	86.1	86.1	86.2	88.0	88.3	89.0	89.8	90.3	88.0
1939	90.6	90.6	91.1	90.1	90.5	91.7	91.8	93.1	93.1	1/95.6			

1/ Preliminary.